

REMARKS

Claims 1-20 are all the claims pending in the application.

Formal Matters

Applicant thanks the Examiner for acknowledging Applicant's claim to priority and that a certified copy of the priority document has been received.

The Examiner has returned an initialed copy of the PTO/SB/08 form for the Information Disclosure Statement ("IDS") filed January 2, 2004 and has initialed all of the references except for Patent Abstracts of Japan, vol. 008, no. 100 (M-295), May, 1984. In a telephone conversation with the Examiner on August 8, 2005, the Examiner stated that she did not initial the above-noted Patent Abstract of Japan, vol. 008, no. 100 (M-295), May, 1984, because she did not receive the reference. However, Applicant submitted the above-noted Patent Abstract which corresponds to JP Publication No. 59014919. A copy of the submitted abstract is being resubmitted herewith for the Examiner's convenience. Applicant notes that this abstract has been received by the Patent Office and is available on the Patent Office's public PAIR system.

Specification - Objections

The Examiner objects to the specification for informalities. Applicant has amended the specification in a manner believed to overcome the objection.

Claim Rejections - 35 U.S.C. § 112

Claim 16 stands rejected under 35 U.S.C. § 112, second paragraph, as being indefinite. Applicant has amended claim 16 in a manner believed to overcome the rejection.

Claim Rejections - 35 U.S.C. § 102

Claims 1, 2, 4, 7-9, 13, 15, 16, 18 and 19 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Butterworth (U.S. Patent No. 6,718,853). Applicant respectfully traverses this rejection in view of the following arguments.

Claims 1 and 18 are independent claims and the remaining claims depend from one of these two claims. Claim 1 sets forth a cutting mandrel which is insertable into a paper pipe which serves as a core. A rotating device rotates the paper pipe, which is supported by the cutting mandrel and a cutting blade rotating device rotates the cutting blade. Then the difference between the linear velocities of the paper pipe rotating device and the cutting blade rotating device are controlled within a certain range. The subject application teaches that in conventional cutting machines, an adhesive can melt and solidify onto the end surface of a paper pipe and make it difficult to print on the end surface of the pipe (*see* paragraph bridging pages 2 and 3). In a non-limiting embodiment of the specification, because the respective linear velocities are controlled, an adhesive is not melted and solidified on the cut face of the paper pipe, and ink can permeate the cut face (*see* the paragraph bridging pages 3 and 4 and the first full paragraph of page 4).

In contrast, Butterworth fails to teach a paper pipe at all. Instead, Butterworth teaches that there are advantages to using a coreless product (*see* column 1, lines 16-22). Since Butterworth fails to teach a paper pipe at all, it certainly fails to teach a paper pipe rotating device which rotates a paper pipe so that the difference between linear rotation velocities of the paper pipe rotating device and the cutting blade rotating device is controlled within a certain range, as claimed. Accordingly, Applicant submits that claim 1 is allowable over Butterworth.

Claim 18 sets forth a method for cutting a cylindrical paper pipe serving as a core. Therefore, claim 18 is allowable over Butterworth at least for reasons similar to those given with respect to claim 1.

Claims 2, 4, 7-9, 13, 15 and 16 depend from claim 1 and claim 19 depends from claim 18. Applicant submits that these claims are allowable at least because of their dependency. Furthermore, with respect to claim 16, Applicant submits that this claim is further allowable at least because Butterworth fails to teach mandrels as claimed.

Claim 16 sets forth that the cutting mandrel comprises a main pipe and a plurality of mandrel pieces inserted around the main pipe. The Examiner asserts that Butterworth teaches a central shaft 74 which constitutes a main pipe and sleeves 82 inserted around the central shaft and serving as the mandrel pieces. However, alleged mandrel pieces (sleeve 82) do not include recesses or protrusions. Although the central shaft 74 may have a recess 58, there is no indication that the sleeves 82, 86 have protrusions or recesses, that cooperate to form a groove. Instead, the sleeves 82, 86 may merely be placed on either side of the recess 58 of the shaft 74 (*see* column 7, lines 37-46). Therefore, Applicant submits that claim 16 is also allowable over Butterworth at least because Butterworth lacks mandrel pieces with protrusions and recesses.

Claim Rejections - 35 U.S.C. § 103

A) Claim 3

Claim 3 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Butterworth in view of Elliott, Jr. (U.S. Patent No. 5,004,383). Applicant respectfully traverses this rejection in view of the following arguments.

First, claim 3 depends from claim 1. As noted above, Butterworth is deficient with respect to claim 1 at least because it fails to teach or suggest a paper pipe core. Elliott teaches deburring a tube, but does not teach or suggest a paper pipe core, or a paper pipe core that would be applied to Butterworth. Also, Butterworth notes that it is advantageous to have coreless products (*see* column 1, lines 16-22) and would therefore not be modified to include a paper pipe core.

Additionally, the Examiner acknowledges that Elliott does not teach using a pair of rotating members positioned opposite to each other and rotating them in opposite directions. In order to correct this deficiency, the Examiner asserts that it would have been obvious to use rotating members on opposite sides which rotate in opposite directions. However, it appears that any motivation to do so is absent from the prior art, and only comes from the present application. The Examiner asserts that it would have been obvious to include deburring devices at both ends to increase the speed and it would have been obvious to rotate the devices in opposite directions so that the pipe does not rotate. However, the Examiner has failed to provide any evidence that this would have been obvious based on the prior art.

Additionally, even if it would have been obvious to include a deburring device at each end, there is no evidence that it would have been obvious to rotate them in opposite directions. The Examiner asserts that if the devices moved in the same direction, the tube would tend to be rotated. However, Elliott already teaches a rotating deburring device at one end. Using a rotating deburring device at one end already would tend to rotate a pipe. The tube in Elliot could be supported to avoid rotation in another manner, such as a support near the center. Considering that Elliot already teaches a configuration that would tend to rotate a pipe, Applicant submit that

it would not have been obvious to include two oppositely rotating devices in order to avoid a tendency to rotate the pipe.

Therefore, claim 3 is allowable over the combined teachings and suggestions of Butterworth and Elliot at least because the combination would be deficient and one of ordinary skill in the art would not have been motivated to modify the combination as suggested by the Examiner.

B) Claims 5, 6 and 20

Claims 5, 6 and 20 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Butterworth in view of Stoffels et al. (U.S. Patent No. 4,292,867). Applicant respectfully traverses this rejection.

With respect to claims 5 and 20, Applicant respectfully traverses this rejection at least because one of ordinary skill in the art would not have modified Butterworth with Stoffels as suggested by the Examiner and any combination would still be deficient.

Although Stoffels is directed to cutting a roll with a core, it is not directed to a paper pipe core. Therefore, Stoffels does not correct this deficiency of Butterworth discussed above. Additionally, one of ordinary skill would not have been motivated to modify Butterworth with Stoffels as suggested by the Examiner and any combination would still be deficient.

Also, one of ordinary skill in the art would not have been motivated to modify Butterworth with Stoffels. Butterworth is directed to cutting a roll using a single blade. In contrast, Stoffels is directed to the use of three blades to cut a roll with a core. It is unclear that any of the particular speeds for the Stoffels blades would be useful if applied to a device using only a single blade. Furthermore, the Examiner states that Stoffels teaches a circular cutting

blade (42) rotating at approximately the same circumferential speed as the outer surface of the roll. Claims 5 and 20 set forth that the rotational linear velocities of the cutting blade and the paper pipe are controlled to be equal. As can be seen in, for example, Figs. 3 and 4 of Stoffels, the roll (R) has a substantially greater outer diameter than any core (C). Therefore, the rotational linear velocity of the roll (R) and the core (C) would be substantially different, and the Stoffels blade (42) having the rotational linear velocity as the roll (R) is not the same as it having the same rotational linear velocity as the core (C). Finally, the blade (42) does not even cut the core, as the core blade 68 is used to cut the core (C) (*see* column 5, line 67 to column 6, line 2). Stoffels does not disclose a rotational velocity for this blade. Therefore, claim 6 is allowable over the combined teachings and suggestions of Butterworth and Stoffels because one of ordinary skill in the art would not have been motivated to combine the references as suggested by the Examiner and any combination would still be deficient with respect to claim 5 and 20.

Claim 6 depends from claims 1 and 2. Claim 6 is allowable over the combination of Butterworth and Stoffels at least because Stoffels does not correct the above noted deficiencies of claims 1 and 2.

C) Claims 10-12, 14 and 17

Claims 10-12, 14 and 17 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Butterworth in view of Sartori (U.S. Patent No. 5,383,380). Applicant respectfully traverses this rejection in view of the following arguments.

Claims 10-12, 14 and 17 depend from claim 1 and are allowable at least because Sartori fails to correct the above-noted deficiencies of claim 1. Additionally, claims 12, 14 and 17 are

also allowable at least because it would not have been obvious to modify Butterworth as suggested by the Examiner.

Claims 12, 14 and 17 set forth particular groove widths. The Examiner asserts that it would have been obvious to vary the width of the groove to accommodate different blades and because the specification gives no criticality to the claimed limitation. However, the present application does teach a criticality to the groove width. With reference to a non-limiting embodiment, the specification teaches that the width of the groove 128 leads to reducing the amount of burrs generated (*see* page 16, 4th full paragraph and page 18, end of the 1st full paragraph). Such teaching is absent from the cited references, and it therefore would not have been obvious to limit the groove width as claimed. Additionally, Butterworth teaches that it is preferably that the recess non-abruptly transitions between portions (*see* column 3, lines 27-30). There is no indication that the groove should be limited in size or that it should be adjusted for different blades. Therefore, Applicant submits that claims 12, 14 and 17 are further allowable because would not have been obvious to modify Butterworth to include the claimed groove widths.

Conclusion

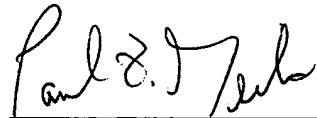
In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Application No. 10/606,210

Q76020

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Respectfully submitted,



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